



EXAMPLE

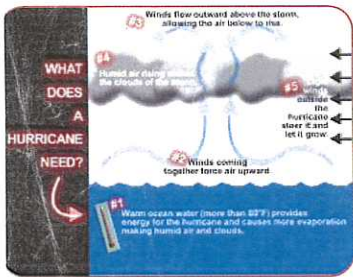
Hurricanes

By: Emily Anderson

P.3 STEM

1) What is a tropical cyclone? How are cyclones, tropical depressions, tropical storms, and hurricanes related?

2) Name three weather conditions under which a hurricane usually develops.



3) Describe the three stages of development of a tropical cyclone. Include the wind speed in your description.

4) Suppose you hear a hurricane described as a 4 on the Saffir-Simpson scale. What does this mean?

5) What tools and methods are used to forecast and track hurricanes?

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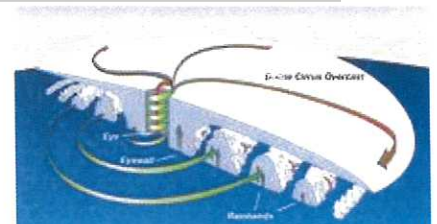
6) Often the development of technology for one setting is applied to another. What was radar originally developed for?

7) Describe the role satellites play in detecting hurricanes.

8) Explain the mission of "hurricane hunters" and identify the types of data they might gather.

9) What will be the names of the first Atlantic or Caribbean tropical storms for the next three years?

10) Imagine that you live in an area that may have to be evacuated due to a hurricane. Write a safety plan for your family.



EXAMPLE

Mission To Mars

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1) Launched in 1964, Mariner 4 was the first robotic mission to make a successful flyby of Mars. It also returned photographs to Earth. What did the photos reveal?



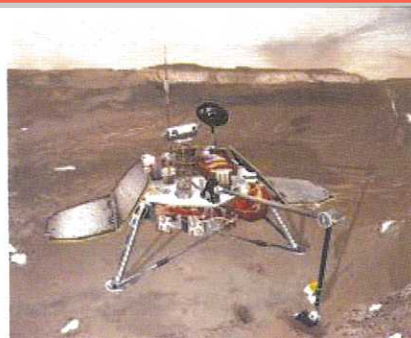
2) Not all Mars missions have succeeded. Name one mission that failed. State the mission goal and date of failure, and explain what went wrong.

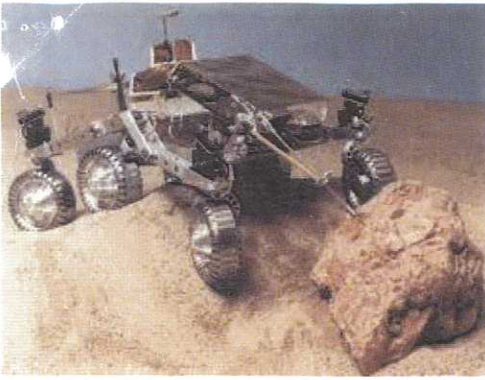


3) In 1997, the Pathfinder mission included the Sojourner rover, which explored the surface of Mars. Describe the types of data collected during the Pathfinder mission.



4) What did the findings from the Pathfinder mission suggest about Mars?





Mission To Mars

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5) By December 2003, the ESA's Martian Express was in orbit and began returning images to Earth. Its lander, Beagle 2, did not make contact after it separated from the spacecraft. However, the Martian Express continued to send images and other data. What is the mission for the Martian Express?

6) On January 2, 2006, NASA celebrated the second anniversary of Mars rover Spirit's landing on Mars. Spirit's robotic twin Opportunity, which landed after Spirit, was also still on the job. Find out the latest news about the rovers. Report your findings.

7) What types of data from the missions launched in 2003 show evidence of water on Mars?

8) The next NASA mission to Mars is the Mars Reconnaissance Orbiter. What will this mission do?

9) Is research in space worth the resources used? Take a position for or against space research. Give at least one reason to support your answers.

10) Choose a technology originally developed for space exploration that has affected your life or the life of someone you know. Describe the technology and the effect it has had.